

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Permittee Name: Tronox LLC
P.O. Box 55
Henderson, NV 89009

Permit Numbers: NEV2001516

Location: 8000 W. Lake Mead -Parkway
Henderson, NV 89015 (Clark County)
Latitude: 36° 02' 32" N. Longitude: 114° 59' 59" W
Township 22S; Range 62E; Sections 12-13

Drinking Water Protection:

The facility is not within a Drinking Water Protection Area (DWPA) around any public water supply well. The facility is not within an established Wellhead Protection Area (WHPA).

Bureau of Corrective Actions Sites:

The permitted facility is within the Nevada Division of Environmental Protection Bureau of Corrective Actions BMI Complex Area of Concern. The permit covers ponds associated with remediation actions, and are not expected to have any adverse effects on any other ongoing remediation activities.

General:

The Permittee operates an electrochemical manufacturing facility located in the Henderson, Nevada Industrial Area (i.e., Basic Management, Incorporated (BMI) Industrial Complex). Tronox LLC (Tronox) currently manufactures - manganese dioxide (component of alkaline batteries)-and boron trichloride (chemical used in the pharmaceutical industry). Historically, Tronox (as Kerr-McGee) additionally manufactured elemental boron and a number of chlorate and perchlorate based compounds including ammonium perchlorate. Ammonium perchlorate has a number of uses including its use as an oxidizer in solid rocket propellant for aerospace and military applications. Perchlorate production ceased at this facility in July 1998 and the perchlorate production equipment was decommissioned and dismantled by March 2002. The Chemical manufacturing portion of the former Kerr-McGee Chemical LLC was sold and renamed as Tronox LLC in late 2005. Neighboring facilities within BMI include Pioneer Americas LLC, Titanium Metals Corp. (TIMET), Chem Star, and Saguaro Power Co.

Over the course of many decades of operation, the soil and/or groundwater under portions of the BMI complex had become contaminated with a variety of raw materials, chemical byproducts and chemical products due to the manufacturing activities of the various BMI complex operators. The Nevada Division of Environmental Protection (NDEP), Bureau of Corrective Actions (BCA) has required Tronox to remediate perchlorate and chromium from beneath the Tronox plant site. Pursuant to an environmental agreement between Tronox and NDEP, Tronox transferred all of its right, title and interest with respect to remedial operations to the Nevada Environmental Response Trust (Trust). Transfer of the activities, and the two discharge permits associated with those activities (NEV2001515 and NV0023060), to the Trust occurred on February 14, 2011. With the transfer, two of the on-site ponds previously controlled by Tronox, GW-11 and AP-5, came under

control of the Trust and are administered separately under Permit NEV2001515. The remaining ponds, WC-West, WC-East, and MN-1, are administered by Tronox under Permit NEV2001516. Under this permit, no direct discharge of water is allowed from any pond to groundwater or surface waters of the State.

Ponds WC-West, WC-East, and MN-1 are double-lined and leak-detected process holding ponds. The process water contents of WC-West, WC-East, and MN-1 are recycled back into the production process. The general parameters for the holding ponds are summarized below in Table 1.

Table 1: Holding Pond Parameters

PARAMETER	WC-West	WC-East	MN-1
Capacity (gallons)	12,515,200	19,658,500	3,500,000
Surface area (ft ²)	67,600	88,580	53,000
Primary Liner	60 mil HDPE	60 mil HDPE	60 mil HDPE
Secondary Liner	40 mil HDPE	40 mil HDPE	4-6" compacted clay
Influent Flow, MGD (gpm)	0.008 (5.3)	0.085 (58.7)	0.0009 (0.6)
Contents	scrubber & distillation blowdown process waters	product thickener overflow, steam boiler & cooling tower blowdown waters	cathode wash solution

Notes: HDPE: high-density polyethylene
 MGD: million gallons per day (30-day average flow)
 gpm: gallons per minute (30-day average flow)

Receiving Water Characteristics:

This permit does not allow for direct discharge of pond contents to any ground or surface waters of the State. The depth to groundwater beneath these double-lined ponds varies from approximately 30 to 35 feet, depending on location within the BMI complex. Groundwater flows from south to north towards the Las Vegas Wash (LVW). The LVW is located approximately 3.0 miles to the north from the closest boundary to the Tronox facility. The Nevada Division of Environmental Protection, Bureau of Corrective Actions regulates all remediation activities within the BMI complex. The ponds are double-lined and have leak detection sumps between the primary and secondary liners to detect any potential leakage in the primary (surface) HDPE liners.

Flow:

Estimated monthly average flows for each holding pond are specified in Table 1 above. These flows will be used to determine permit discharge fees and will be required to be monitored and reported. Because the daily flows may vary due to process demands, a limit will not be set, i.e., monitor and report basis. A monthly water balance (mass balance) for each holding pond is also required to

account for all inflow (process inputs and incident precipitation), outflow (recycle to process), and evaporative losses.

Proposed Effluent Limitations and Special Conditions:

The proposed permit discharge limitations and monitoring frequencies are listed in the Table 2 below:

Table 2: Holding Pond Limitations

PARAMETER	DISCHARGE LIMITATIONS	MONITORING REQUIREMENTS	
		Measurement Frequency	Sample Type
Flow, MGD (Influent)	Monitor & Report (Each Pond)	Monthly	Flow Meters & Material Balances
Leak Detection System (between primary & secondary liners), gallons of liquid accumulated in sump	Monitor & Report (Each Pond)	Twice/Month	Discrete – Field Measurement
Pond Water Level, feet	Monitor & Report (Each Pond)	Twice/Month	Discrete – Field Measurement
Storage Volume, gallons	WC-West: 12,515,200 WC-East: 19,658,500 MN-1: 3,500,000	Twice/Month	Calculation
Water Balance (mass balance), gallons	Each Pond: Calculate & Report	Monthly	Calculation

Schedule of Compliance:

The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications, which the Administrator may make in approving the schedule of compliance.

- a. The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.
- b. **By MMM DD, 2011**, the Permittee shall submit a revised Operations and Maintenance (O&M) Manual for NEV2001516, in accordance with appropriate sections of guidance Document WTS- 2, *Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant*. The revised O&M manual shall include sections on: the leak detection system, pond/liner inspections, calculating storage volumes and monthly water balances, sludge management, and both narrative and flow diagram of all input/output streams for the

holding pond operation.

Rationale for Permit Requirements:

The Division's rationale for the proposed monitoring conditions is as follows:

- *Leak Detection Systems:* The Division requires that on a twice/month basis, the Permittee will remove, sample, and record the volume of any liquid collected from the holding pond sumps to check for leakage in the primary liner.
- *Pond Water Level:* The liquid level depth in each pond is measured twice/month to determine freeboard and storage volume.
- *Water Balance:* A monthly water balance serves as a check on any unaccounted losses (e.g., leakage) from the ponds.

Procedures for Public Comment:

The Notice of the Division's intent to issue two state-issued, zero-discharge permits authorizing the facility to operate five double-lined holding ponds, subject to the conditions contained within the permit is being sent to the **Las Vegas Review-Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of the public notice. The comment period can be extended at the discretion of the Administrator. The deadline at the Division for receipt of all comments pertaining to this public notice period is **June 17, 2011 at 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination:

The Division has made the tentative determination to issue permit NEV2001516 to Tronox LLC for a period of five (5) years.

Prepared by: Janine O. Hartley, P.E.
Bureau of Water Pollution Control
Draft: May, 2011